Installing Dell OpenManage Essentials

This technical white paper describes how to install OpenManage Essentials.

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Executive summary

This document describes the Dell OpenManage Essentials (OME) installation prerequisites, installation flow and steps, and information you can make use of during the OME installation or upgrade from previous versions.

This document includes the following information:

- Minimum hardware and software requirements
- Single-click prerequisites installation
- Remote database installation
- Program maintenance

What is OpenManage Essentials?

Dell OpenManage Essentials is a lightweight, Web-based, one-to many systems management solution that provides a comprehensive view of Dell systems, devices, and components in an enterprise network. To know more refer: www.delltechcenter.com/ome

Minimum installation requirements

Installing OpenManage Essentials requires the minimum software, network, and system requirements detailed in the tables below. You must have system administrator privileges to perform the installation.

Table 1. Minimum recommended hardware

Minimum recommended hardware	Large deployments	Medium deployments	Small deployments
Number of devices	Up to 2000	Up to 500	Up to 100
Type of system	Physical machines / virtual Machines	Physical machines / virtual Machines	Physical machines / virtual Machines
RAM	8 GB	6 GB	4 GB
Processors	8 cores total	4 cores total	2 cores total
Database	SQL standard	SQL Express	SQL Express
Database location	Remote	Local	Local
Hard drive	10 GB	6 GB	6 GB

Table 2. Minimum software and network requirements

Particulars	Minimum requirements
Operating systems	Microsoft Windows Server 2008 Standard Edition (x86 and x64) Windows Server 2008 Enterprise Edition (x86 and x64) Windows Server 2008 R2 Standard Edition Windows Server 2008 R2 Enterprise Edition
Network	100 Mbps or higher
Web browser	Microsoft Internet Explorer 8, 9, and 10 Mozilla Firefox 11 and 12
Database	Microsoft SQL Server 2005 SP3 and above
User interface	Microsoft Silverlight version 5.0
Microsoft .NET Framework	4.0
Microsoft Visual C++ Runtime	Runtime 2008 - v9.0.30729.17

Table 3. Minimum login roles for Microsoft SQL Server

Use cases	Minimum login roles for SQL Server
Fresh OME installation: select the *Typical installation* option.	*sysadmin* access on the installed instance
Fresh OME installation: select the *Custom installation* option. An *empty* OpenManage Essentials database is already present (locally or remotely) on the mentioned database server.	*db_owner* access on the OpenManage Essentials database.
Fresh OME installation: select the *Custom installation* option, and no OME database found.	*dbcreator* access on the server.
Upgrading OME from v1.0.1 to v1.1 and an OpenManage Essentials database is present (locally or remotely).	*db_owner* access on the OpenManage Essentials database.
Upgrading from IT Assistant 8.x to OpenManage Essentials.	*sysAdmin* access on the IT Assistant database and *dbcreator* access on the server.

Note: If you select the *Custom* install option and do not enter any credentials (irrespective if the Windows or SQL Authentication methods selected), then the installation is considered as a *Typical* installation and *sysadmin* rights will be checked for the mentioned database server and database instance.

Table 4. Login roles

Role	Why does OME require this role during installation?
sysadmin	During a Typical install, OME requires this role to create a new SQL Server Login *OMEService*. This login is granted with *dbcreator* permission.
dbcreator	During a Custom install, OME requires this role to create the OMEssentials database on the mentioned database server.
db_owner	OME requires this role when it detects an existing OMEssentials database as present on the system. This role helps OME to create/update the OME database objects on this existing database.

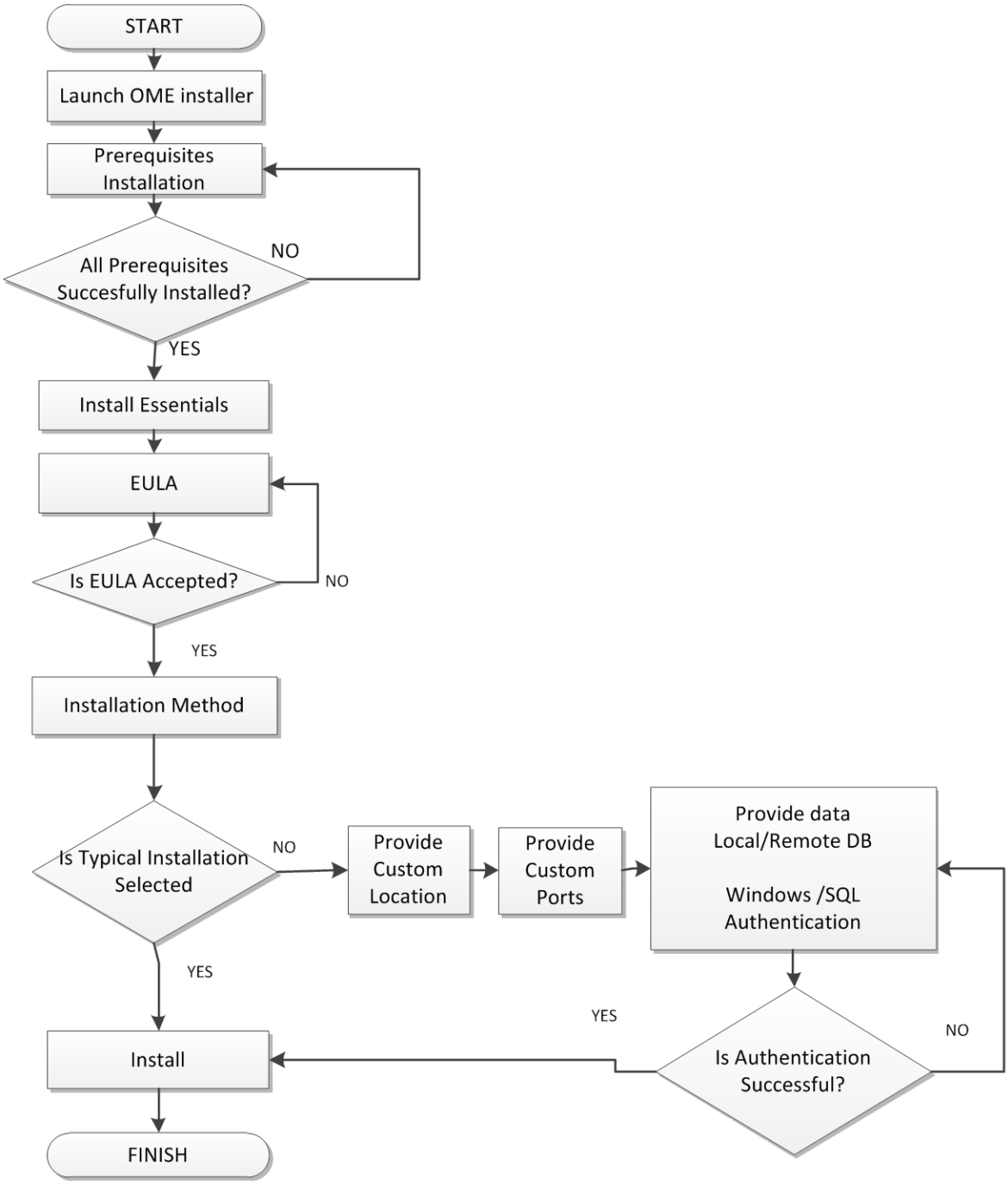
Installation procedures

Use the following install procedures for installing OpenManage Essentials.

Installation flowchart

The Figure 1 shows the brief OME installation steps with respect to fresh installation.

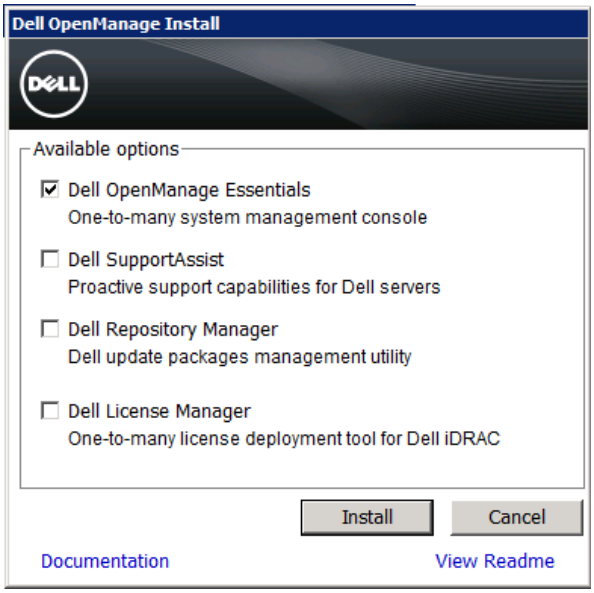
Figure 1. Fresh installation



Installing Dell OpenManage Essentials

1. Download the OpenManage Essentials package from https://delltechcenter.com/ome, and extract the files to a local drive.
2. The self-extracting zip automatically launches the Autorun.exe window or you can manually launch the Autorun.exe.

Figure 2. Dell OpenManage Install Available options dialog box.



3. Select **Dell OpenManage Essentials**, and then click **Install**. This launches the Dell OpenManage Essentials Prerequisites screen.

Note:

- When you select OME, the *Dell Troubleshooting Tool* and the *Dell OME MIBImport Utility* are installed along with it.
- If you directly launch the Setup.exe in the \windows\ManagementStation\ folder, then the *Dell Troubleshooting Tool* and the *Dell OME MIBImport Utility* are not installed along with OME.

Figure 3. Dell OpenManage Essentials prerequisites.

Dell OpenManage Essentials Prerequisites
DELL
OPENMANAGE ESSENTIALS
Prerequisites
SNMP Service is not installed on this machine. Click here to Install SNMP Service.
This system either does not have ASP.NET 4 Framework installed or the version installed is older than .NET Framework 4. It is recommended that you upgrade to ASP.NET 4 Framework. Click here to Install the latest version of ASP.NET Framework.
See readme_essentials.txt in the Windows/ManagementStation/docs/readme folder on the media for information on operating system updates and other pre-requisites necessary for proper functioning of Essentials. It is critical to apply these updates to the system.
You will not be able to install Essentials in the volume where free disk space is less than 1GB. Please refer Essentials user guide for recommended hardware configuration.
Legend
This error condition will prevent the installation of a feature.
This warning condition may disable the "Typical" installation but not an "Upgrade" of the feature later during installation. You may also use the "Custom" installation setup type later during installation to select the feature.
This informational condition will not affect the "Typical" selection of a feature.
Install All Critical Prerequisites
Rescan Dependencies

Critical prerequisites

If a component that is required for OpenManage Essentials installation is missing or if the version is outdated, it displays as a critical prerequisite on the **Dell OpenManage Essentials Prerequisites** screen (Figure 3). It means you cannot install OME unless all these requirements are met on the system.

Critical prerequisites are:

- SNMP Service
- IIS 7
- Microsoft .NET 3.5 SP1
- ASP.NET 4
- Microsoft Silverlight 4.0
- Microsoft Visual Studio® Runtime 9.0
- IPMI Utility (BMU Tools)
- DRAC Tools
- PowerShell

Note: If the SQL server is not present on the system where OME is being installed a warning message is displayed, with a link to install SQLEXPRESS locally. You can ignore this message if you are planning to do a remote database installation.

Automatically installing all critical prerequisites

To automatically install all critical prerequisites, click *Install All Critical Prerequisites* button on the *Dell OpenManage Essentials Prerequisites* screen. Depending on the system configuration, a reboot may be required; however, the prerequisites installation resumes automatically after the system restarts. To avoid issues with automatically resuming installation, make sure *User Access control* is turned off.

Note: Installation may take up to 35 minutes to complete.

SQL Server requirements include:

- **Local Database**
  To set up OpenManage Essentials on a local database, SQL Server 2008 must be installed, (even though it displays only as a warning (rather than critical) prerequisite).
- **Remote Server**
  If you have a database located on a remote server, SQL Server is *not* required on the local system.
- **Version**
  If the local system has SQL Server 2005 installed, Dell recommends upgrading to the latest service pack or to install SQL Server 2008 or SQL Server 2012.

Note: SQL Server 2012 RC/evaluation versions are not supported.

Typical installation

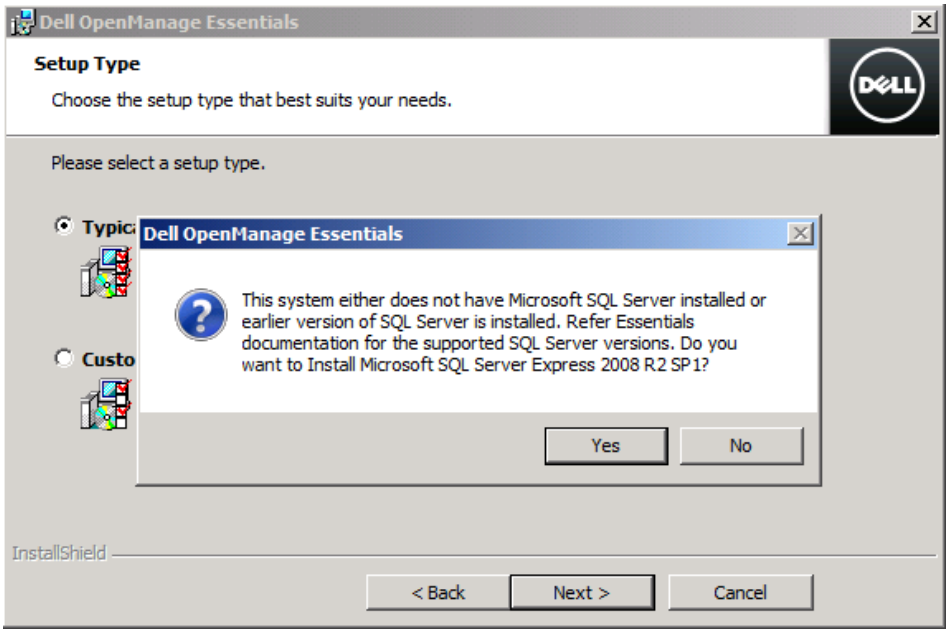
A Typical installation installs OME with the default settings. Select *Typical* on the Setup Type screen, and then click Install on the Ready to Install the Program screen.

In a Typical installation:

- SQL Server Authentication is selected as the default authentication method.
- The default SQL instance is selected as the database server.
- If there is no default SQL instance and multiple named instances of SQL exist, the first-installed named instance will be selected as the database server.

Because the SQL prerequisite shows up as a warning, you could miss installing it and still reach the Setup Type screen. The OpenManage Essentials installer handles this by displaying a dialog that asks you to install SQL (see Figure 4).

Figure 4. Setup type


Dell OpenManage Essentials
Setup Type
Choose the setup type that best suits your needs.
Please select a setup type.
Typic
Custo
Dell OpenManage Essentials
This system either does not have Microsoft SQL Server installed or earlier version of SQL Server is installed. Refer Essentials documentation for the supported SQL Server versions. Do you want to Install Microsoft SQL Server Express 2008 R2 SP1?
Yes
No
InstallShield
< Back
Next >
Cancel

Custom installation

The Custom installation is recommended for remote database installation, or if you want to install with Windows Authentication, or if you want to use a non-default location and port settings.

Figure 5. Port settings

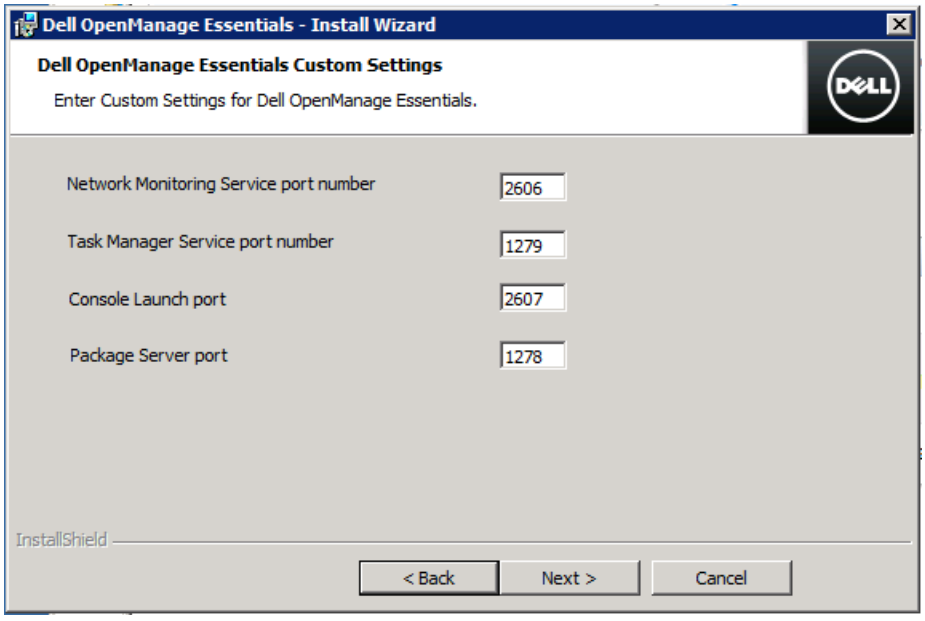


Table 1: Default port settings

Port number	Protocol	Port type	Maximum encryption level	Direction	Usage
1278	HTTP	TCP	None	In/Out	Web GUI
1279	Proprietary	TCP	None	In/Out	Scheduling tasks
2606	Proprietary	TCP	None	In/Out	Network monitoring
2607	HTTPS	TCP	128-bit SSL	In/Out	Web GUI

To set up OpenManage Essentials on a local database with multiple SQL Server instances, select the server from the **Database Server** list (Figure 6).

Figure 6. Database server window from the InstallShield Wizard.

Dell OpenManage Essentials - InstallShield Wizard
Database Server
Select database server and authentication method
Provide the database server name and authentication method. Browse to see the available database servers.
Database Server:
(local)\SQLEXPRESS
Browse...
Authentication:
Windows Authentication
SQL Server Authentication
User Name:
Password:
Note: Provide user name and password with Administrative privileges. For Windows Authentication, user name should be <domain>\<username> format and to use remote database server both your local and remote system must have the same windows login account.
InstallShield
< Back
Next >
Cancel

Remote database installation

Configure OpenManage Essentials to use a SQL server instance on a remote system. Before setting up the OpenManage Essentials database on the remote system, make sure the following prerequisites are met:

- The network communication between the OpenManage Essentials system and the remote database system is functioning.
- The SQL Server user has permission to backup, create, and configure databases.
- The SQL Server authentication mode is enabled on the system for remote database installation with a SQL Server Authentication method.
- That TCP/IP is enabled on the remote system to avoid database connection issues.

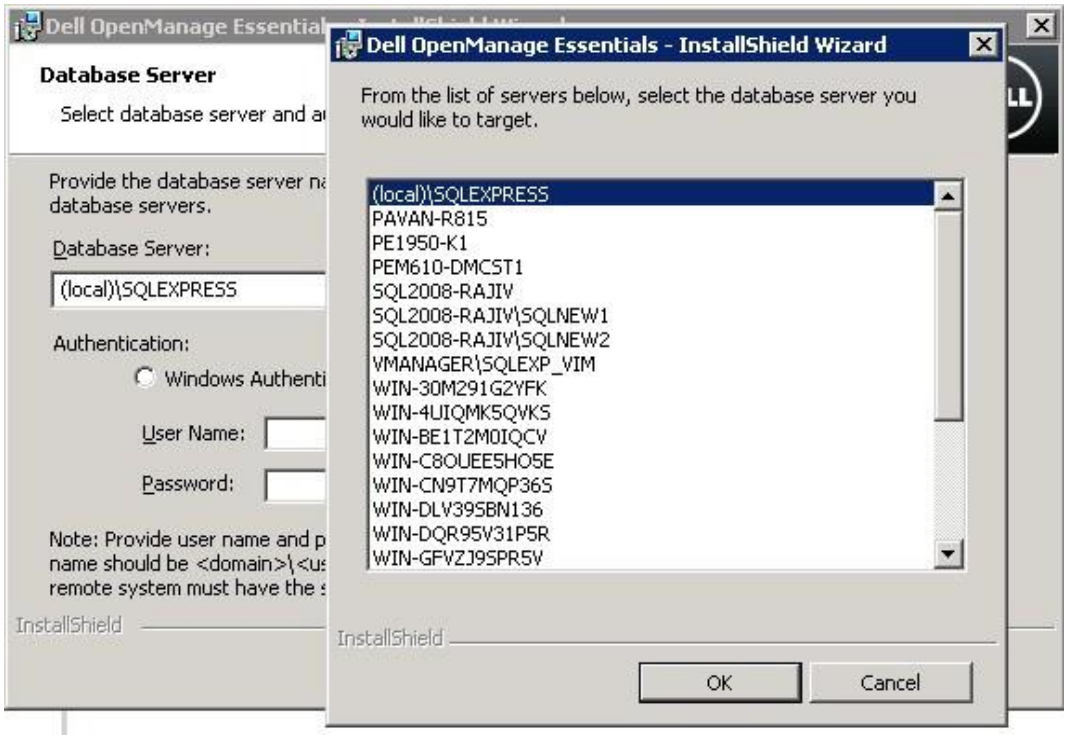
To set up the OME database on the remote system, click *Browse* on the Database Server screen and select the remote system, or enter the hostname and database instance in the Database Server field (see Figure 6).

Perform the installation with one of the following authentication methods:

- **Windows Authentication**
  Windows login credentials are used to connect to the remote SQL Server. Use this authentication method if the remote system and installation system Windows login credentials are identical.
- **SQL Server Authentication**
  Use this authentication method if the installation system and the remote database system have different Windows login credentials.

Note: After the OpenManage Essentials database is set up on the remote system, do not move the database, or OpenManage Essentials stops working.

Figure 7. Browsing a remote database.



OpenManage Essentials supporting utilities

This section discusses OpenManage Essentials supporting utility tools.

Troubleshooting Tool

A troubleshooting tool is automatically installed with OpenManage Essentials. This tool is useful for troubleshooting errors pertaining to supported device discovery and device connections.

If an older version of the Troubleshooting Tool exists on the system its gets upgraded as part of the OME installation. For more information, refer: http://en.community.dell.com/techcenter/systems-management/w/wiki/4172.dell-troubleshooting-tool.aspx

Dell OpenManage Essentials MIBI

A MIB import utility is automatically installed with OpenManage Essentials. If you have non-Dell hardware, use this tool to define new alerts to OME. This lets you monitor a wider range of hardware and setup email and forwarding rules for these devices.

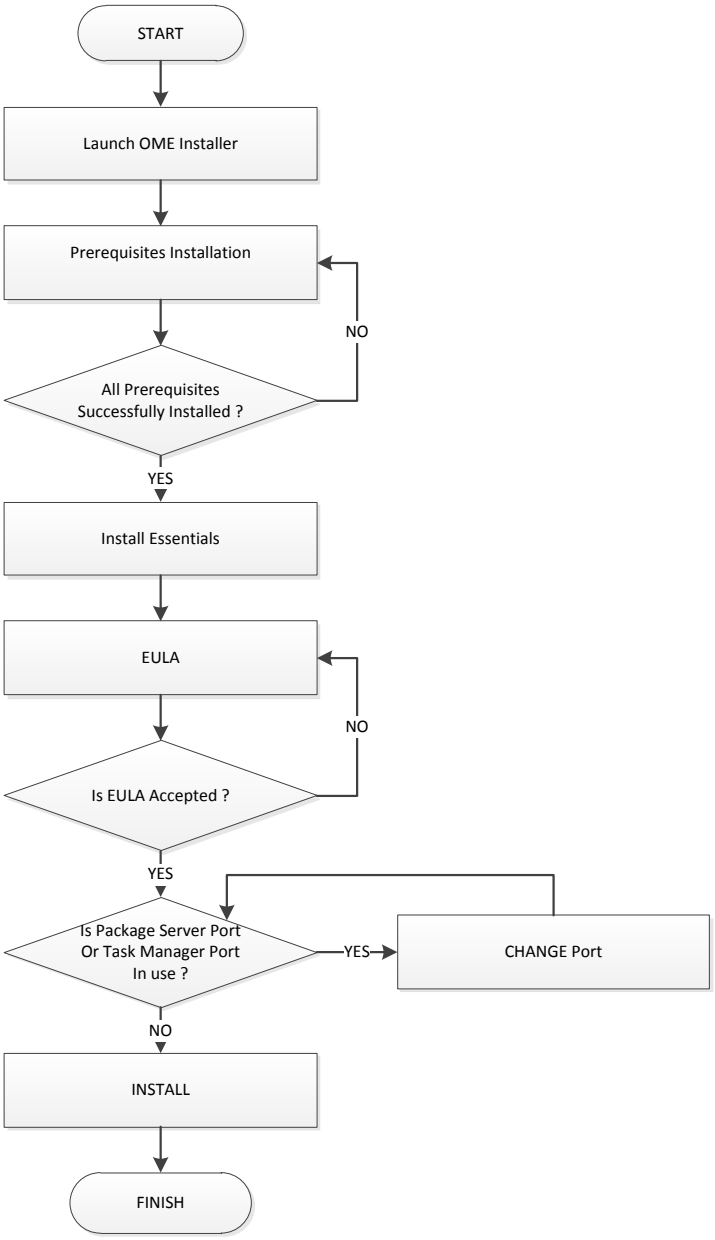
If an older version of MIBImport Utility exists on the system its gets upgraded as part of OME installation. For more information, go to:

http://en.community.dell.com/techcenter/systems-management/w/wiki/3570.openmanage-essentials-mib-import-utility.aspx

Upgrade workflow flowchart

The following figure displays the upgrade workflow.

Figure 8. Upgrade workflow.



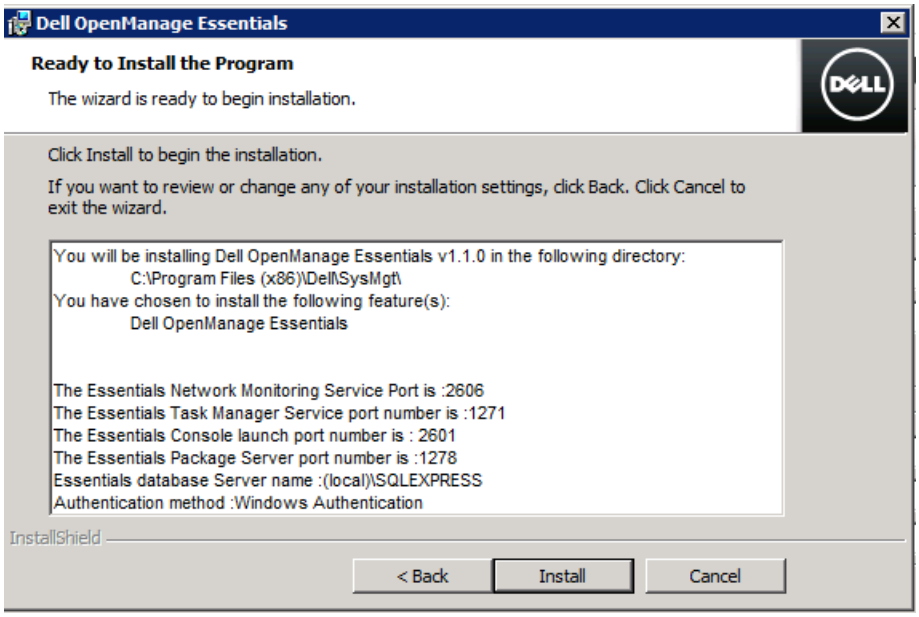
The OME upgrade retains the previous version data during upgrade process.

Note:

- You cannot upgrade directly from OME v1.0 (Beta Program) to OME v1.1. You must first upgrade to v1.0.1 and then to v1.1.
- OME 1.1 uses the new task manager port (Port: 3668) which is different from OME 1.0.1 (Port: 1279). The upgrade process handles this new port and there are no additional steps required.

During the upgrade, OME v1.1 uses the previously installed OME settings. These options (Custom Path, Ports, database server settings, and so on) are not displayed during an upgrade. The installation settings and configuration for v1.1 are visible in the *Ready to install the Program* screen.

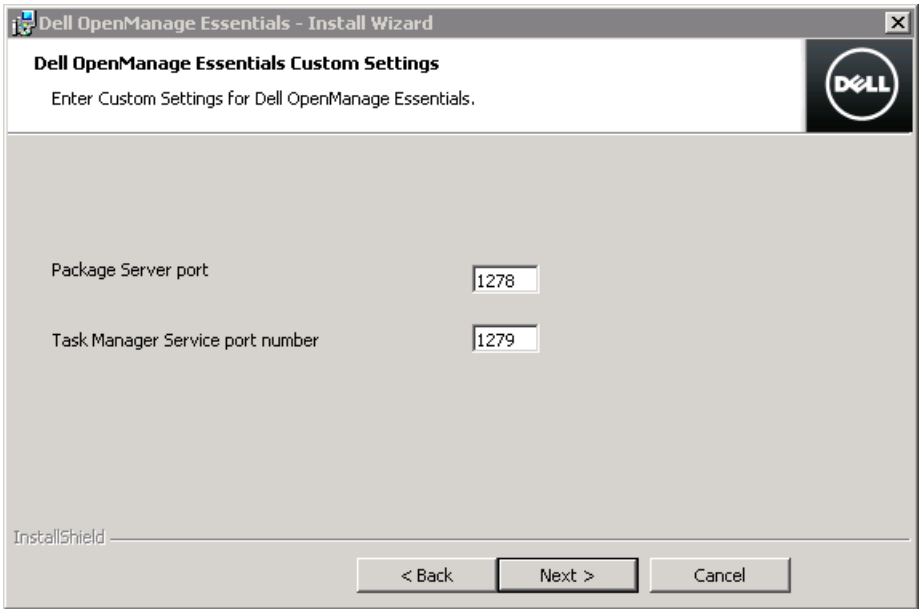
Figure 9. Ready to Install the Program screen.


Dell OpenManage Essentials
Ready to Install the Program
The wizard is ready to begin installation.
Click Install to begin the installation.
If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.
You will be installing Dell OpenManage Essentials v1.1.0 in the following directory:
C:\Program Files (x86)\Dell\SysMgt\
You have chosen to install the following feature(s):
Dell OpenManage Essentials
The Essentials Network Monitoring Service Port is :2606
The Essentials Task Manager Service port number is :1271
The Essentials Console launch port number is : 2601
The Essentials Package Server port number is :1278
Essentials database Server name :(local)\SQLEXPRESS
Authentication method :Windows Authentication
InstallShield
< Back
Install
Cancel

You are prompted to change the ports (Figure 9) only if:

- The default Package Server Port 1278 is already in use/blocked.
- The default Task Manager Port 1279 is already in use/blocked.

Figure 10. Custom settings (only displayed during the upgrade process).

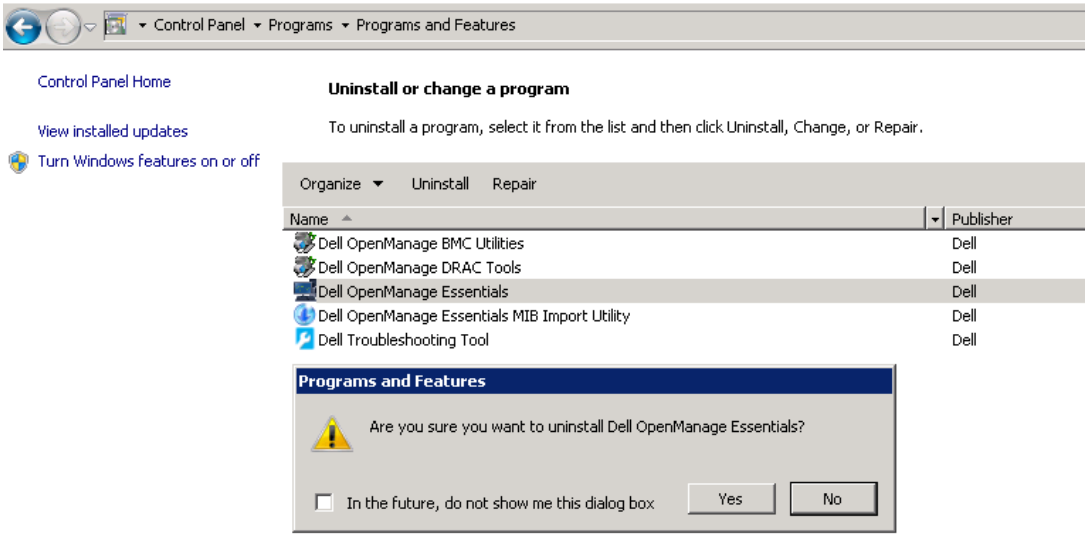


Uninstalling

Use this procedure to uninstall OpenManage Essentials:

1. Navigate to **Control Panel → Programs → Programs and Features** and select **Dell OpenManage Essentials**.
2. Click **Uninstall**.

Figure 11. Uninstalling OpenManage Essentials.



Note: As *Dell SupportAssist* functionality is dependent upon OME, uninstallation of OME checks its presence and block. You must first uninstall *Dell SupportAssist* to uninstall OME.

Note: Uninstalling OpenMange Essentials does not remove the Troubleshooting Tool and the MIBImport Utility. These tools need to be uninstalled separately.

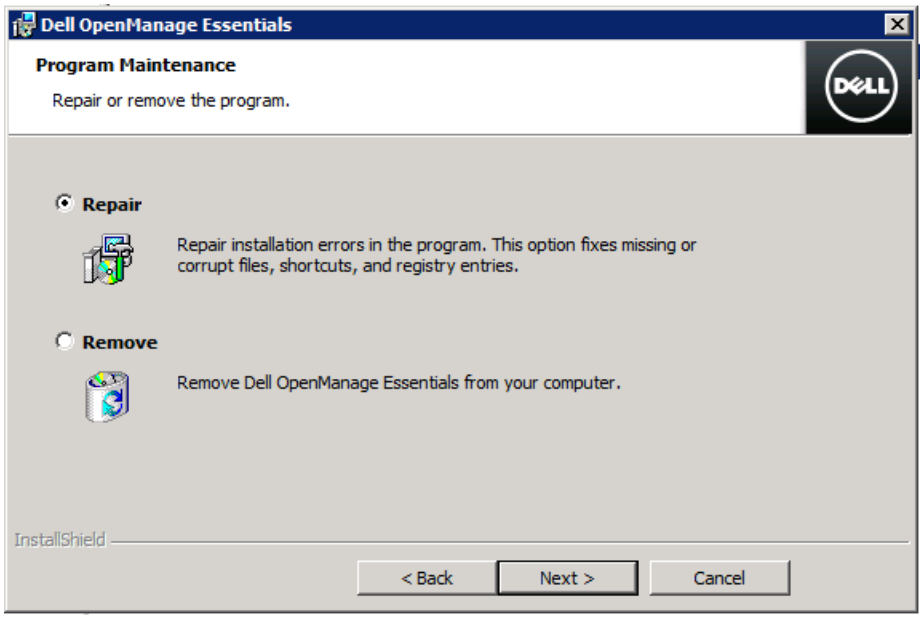
Note: OME uninstallation lets you retain the database. You can use the database again with the same version or after upgrading to a future version of OpenManage Essential.

Repair (program maintenance)

You can repair OpenManage Essentials by going to the Program maintenance window. Do this if the installation drive or folder is corrupted or if you have accidentally deleted the OME installed files. This lets you recreate the database (fresh database) or use an existing one (if you already have the database files).

Note: If the OME database is corrupted, Dell recommends that you recreate the database during repair or install a completely new OpenManage Essentials instance.

Figure 12. Program maintenance.



Learn more

To know about OpenManage Essentials, refer www.delltechcenter.com/ome

Conclusion

OpenManage Essentials is an easy-to-install, one-to-many console that simplifies systems management with features like single-click prerequisites installation. Additionally, it allows Remote Database installation.